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ABSTRACT

This report, the fourth in the National Center for Early Development and Learning's (NCEDL) "Spotlights" series, is based on excerpts from a paper presented during a "Research into Practice in Infant/Toddler Care" synthesis conference in fall 1997. The report addresses controlling diarrhea in out-of-home child care. The report notes that the rate of diarrheal disease in children cared for out of the home is two to three times that in children cared for at home, and that one study puts the mean cost per episode of diarrhea at $289, while another finds an average cost of $172 per child-year. The report offers several suggestions for controlling and preventing diarrheal disease in child care environments, such as: (1) food preparation areas should be completely separate from diapering and toilet areas; (2) use of potty chairs should be discouraged; and (3) surfaces should be designed and built for ease of cleaning. The report offers administrative measures for controlling diarrhea, such as excluding children with diarrhea from the center, and concludes with a note about the recent approval by the FDA of "Rotashield," a tetravalent, live oral rotavirus vaccine for preventing diarrhea due to rotavirus. (EV)

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Diarrhea & Child Care

Controlling Diarrhea in Out-of-Home Child Care

No. 4 in the NCEDL Spotlight Series

October 1998

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Diarrhea & child care

Excerpts from a paper presented during a "Research Into Practice in Infant/Toddler Care" synthesis conference by the National Center for Early Development & Learning (NCEDL) in the fall of 1997 in Chapel Hill, NC. Drs. Robin B. Churchill and Larry K. Pickering presented their data and surveyed current literature for their paper, "Health Issues in the Context of Out-of-Home Child Care: Diarrheal Disease in Infants and Toddlers."

Controlling diarrhea in out-of-home child care

These measures may help control and prevent diarrheal disease in child care environments:

- In child care centers, food preparation areas should be completely separate from diapering and toilet areas.
- Diaper-changing areas should never be used for temporary placement of food.
- There should be an adequate number of sinks adjacent to child-size toilets and diapering areas.
- The use of potty-chairs should be discouraged.
- The use of automated faucet-handle-free handwashing sinks should be considered because they may aid in decreasing fecal contamination.
- Surfaces should be designed and built for ease of cleaning. For example, diaper-changing surfaces should be non-porous to allow adequate sanitization between uses.
- Facilities should allow separation of children by age group. Children in diapers especially should be separated from toilet-trained children.
- Written handwashing procedures and sanitation policies should be available to all staff and procedures should be enforced.
- Interventions involving parents and the community can be a valuable adjunct in controlling enteric diseases in child care centers. Education on hygienic practices on a community-wide basis has been shown effective in controlling community outbreaks of shigellosis associated with child care centers.

The cost of diarrheal disease

The rate of diarrheal disease in children cared for out of the home is two to three times that in children cared for at home.

One study puts the mean cost per episode of diarrhea at $289, while another finds an average cost of $172 per child-year.

(Continued on reverse)

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Administrative measures suggested

The education of child care providers and parents in handwashing and other hygienic practices and strict adherence to these practices remain the cornerstone of prevention and control of diarrheal disease in the child care setting. Management of children with diarrhea and control of diarrheal outbreaks in the child care setting may include:

- excluding children with diarrhea from center
- grouping infected children in a separate area with separate staff
- excluding new admissions temporarily
- offering alternative care arrangements including referral to a sick care center
- closing a center temporarily if all other measures fail

Training is effective

Several studies show that training in hygienic practices including handwashing and diapering techniques resulted in a decrease in severe diarrhea in classrooms caring for children under 24 months.

Additional findings

- An increased rate of diarrheal disease has been shown to occur in children newly enrolled in child care centers, and this is likely due to exposure to pathogens not previously found in the home environment.

- Studies show that fecal contamination in infant and toddlers areas of child care environments is common. Dry surfaces, diapering areas and bathrooms sinks and faucets were less likely to be contaminated than the hands of children and staff, classroom sinks and faucets, and toys. Classrooms with high levels of coliform bacteria on the hands of staff also tend to have high levels on the hands of the children.

Note: Until recently, the only FDA-approved vaccines against gastrointestinal tract pathogens had no role in prevention of diarrheal disease in the child care environment. This changed on August 31, 1998, when Rotashield--a tetravalent, live oral rotavirus vaccine--was approved by the U.S. FDA. This vaccine has the potential to have major impact in the prevention of diarrheal disease due to rotavirus, an important pathogen in child care center outbreaks.

Drs. Pickering and Churchill are at the Center for Pediatric Research, Children's Hospital of The King's Daughters, Eastern Virginia Medical School.
NCEDL is administratively housed at UNC-CH. This project is supported under the Education Research and Development Centers Program, PR/award number R307A60004, as administered by the Office of Educational Research and Improvement, U.S. Department of Education. Opinions expressed in these reports do not necessarily represent the positions or policies of the National Institute on Early Childhood Development and Education, the Office of Educational Research and Improvement, or the U.S. Department of Education. Permission is granted to reprint this; we ask that you attribute the author(s) of the study and the National Center for Early Development & Learning.